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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/909,016	07/20/2001	Hisao Tajima	35.C15582	9097

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EXAMINER

LEE, WILSON

ART UNIT PAPER NUMBER

2821

DATE MAILED: 05/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/909,016

Applicant(s)

TAJIMA ET AL.

Examiner

Wilson Lee

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-149 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-133 and 136 is/are allowed.
- 6) ☒ Claim(s) 134, 135 and 137-149 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Objection

Claims 138, 140 are objected to under 37 CFR 1.75 as being a substantial duplicate of claims 139, 141 respectively. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Applicant is respectfully requested to explain the difference between the intermediate area and the portion.

Claim Rejections – 35 U.S.C. 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 137, 147 and 149 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claim 137, "said first wire" lacks antecedent basis.

Regarding Claims 147 and 149, "an integrated structure... pass through the portion" is not understood. Only potential or current can pass through a physical structure (portion). How can a physical structure (integrated structure) pass through another physical structure (portion)?

Claim Rejections – 35 U.S.C. 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 134, 135, 138-149 are rejected under 35 U.S.C. 102(e) as being anticipated by Yoshizawa et al. (6,472,803).

Regarding Claim 134, Yoshizawa discloses an electron-emitting apparatus comprising:

- electron-emitting devices (See Col. 2, lines 15-16);
- driving wires (wires connected between resistor and electrode 2 shown in Figures 1 and 2) connected to said electron-emitting devices (12);
- an electron source substrate (3) on which said electron-emitting devices and said driving wires are arranged, wherein on said substrate is provided a portion (Vd) to which an acceleration potential for accelerating electrons emitted from said electron-emitting devices is supplied (See Col. 4, lines 23-43);
- a first wire (wire that current I_d flows) provided separately from said driving wires and formed on a surface (side of electrode 15) between the portion (Vd) and said driving wires; and
- a resistor (resistor) electrically connected with the portion (Vd) and said first wire (wire that current I_d flows).

Regarding Claim 135, Yoshizawa discloses an electron-emitting apparatus comprising:

- electron-emitting devices (See Col. 2, lines 15-16);
- driving wires (wires connected between resistor and electrode 2 shown in Figures 1 and 2) connected to said electron-emitting devices (12);
- an electron source substrate (3) on which said electron-emitting devices and said driving wires are arranged, wherein on said substrate is provided a portion (Vd) to which an acceleration potential for accelerating electrons emitted from said electron-emitting devices is supplied (See Col. 4, lines 23-43);
- an electro-conductive film (15) provided separately from said driving wires and formed on a surface between the portion (Vd) and said driving wires; and
- a resistor film (resistive material of the resistor) formed on a surface between said first wire and the portion (Vd).

Regarding Claims 138, 139, 140, 141, Yoshizawa discloses an electron-emitting apparatus comprising:

- electron-emitting devices (See Col. 2, lines 15-16);
- driving wires (wires connected between Vd and 15 shown in Figures 1 and 2) connected to said electron-emitting devices (S);
- an electron source substrate (12) on which said electron emitting devices and said driving wires are arranged (See Figure 2);

- an acceleration electrode (2) being applied with an acceleration potential for accelerating electrons emitted from said electron-emitting devices (See Col. 4, lines 23-43), wherein said acceleration potential is supplied via an intermediate area or portion (a portion of wire located between Vd and electrode 15) on a side of said electron source substrate (15);
- a first wire (wire located between resistor and electrode 2) provided separately from said driving wires and formed on said electron source substrate; and
- a resistor (resistor in Figure 2) which is electrically connected with a potential supply path for supplying the acceleration potential and said first wire.

Regarding Claims 142, 143, 144, 145, Yoshizawa discloses that the resistor inherently comprises a resistive layer material for resisting electrical current.

Regarding Claims 146 and 148, Yoshizawa discloses that the potential supply path is a conductor (wire).

Allowable subject matter

Claims 1-133, 136 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art neither discloses nor suggest a potential supply path for supplying the acceleration potential to the acceleration electrode, the potential supply path being introduced via an intermediate area on the side of the electron source substrate; a first wire formed around the intermediate area; and a resistor film formed between the first

wire and the intermediate area, the resistor film electrically connected with the potential supply path and the first wire such as required by claim 1 and 4.

a potential supply path for supplying the acceleration potential to the acceleration electrode, and potential supply path being introduced via an intermediate area on the side of the electron source substrate and a periodical projection/recess structure formed on a surface between the first wire and the intermediate area such as required by claim 39 and 40,

a potential supply path being introduced via an intermediate area on the side of the electron source substrate, a second wire provided separately from the acceleration electrode around the acceleration electrode on the acceleration electrode substrate and a peripheral frame is maintained as a vacuum atmosphere, a lead portion of the second wire is extended outside of the vacuum atmosphere and a conductive contact member is in contact with the lead portion of the first and second wires such as required by claims 111, 133;

a potential supply path for supplying the acceleration potential to the acceleration electrode, at least a portion of the potential supply path passing through the electrode source substrate; a first wire provided separately from the driving wires and formed on a surface between the portion of the potential supply path and the driving wires such as required by claim 130,

a first wire provided separately from the driving wires and formed on a surface between the portion of the potential supply path and the driving wires; and a periodical

Art Unit: 2821

projection/recess structure formed on a surface between the first wire and the portion of the potential supply path such as required by claim 131;

a first wire provided separately from the driving wires and formed on a surface between the portion of the potential supply path and the driving wires; and a periodical projection/recess structure formed on a surface between sealing structure and the first wire such as required by claim 132;

a first wire provided separately from the driving wires and formed on a surface between the portion and the driving wires; and a periodical projection/recess structure formed on a surface between the first wire and the portion such as required by claim 136.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Wilson Lee whose telephone number is (571) 272-1824.

Papers related to Technology Center 2800 applications may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The official fax number is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Wilson Lee
Primary Examiner
U.S. Patent & Trademark Office

5/17/04